Occupational well-being of Russian teachers: Risk factors and areas for improvement

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This article presents a study on the occupational well-being of Russian teachers that is based on data from *Monitoring of Education Markets and Organizations 2015-2016,* an educational monitoring system representative of teachers in Russia (for a total of 2,014 teachers) (Memo Project, n.d.). The main research aims are to describe the factors associated with teacher occupational well-being in the Russian Federation. We examine the psychometric characteristics of the developed scale to evaluate teachers' occupational well-being. We use the resulting level of occupational well-being as a dependent variable in a multilevel linear regression to analyse the relationship between teachers' contextual and personal characteristics and their occupational well-being. The results show a range of external and internal factors related to occupational well-being. The main internal factors are work experience, professional attitude and professional development. The external factors are considered at 3 different levels, the classroom, the school environment, and society, the main factors being the social composition of the school and society's attitude towards teachers.

Introduction

Our study focuses on occupational well-being as a part of the overall subjective well-being of teachers in Russian schools. Subjective well-being is a multidisciplinary construct. Various aspects have been the focus of sociological and educational research. The assessment of subjective life satisfaction in education has been the focus of large-scale international monitoring studies (Helliwell et al., 2015; OECD, 2017). The OECD has developed recommendations for national statistical agencies in OECD countries regarding their standards (OECD, 2013). A comprehensive model of student well-being was incorporated into PISA 2015 (OECD, 2017) and was based on research analysing various approaches and methods for measuring subjective life satisfaction (Stiglitz et al., 2009).

In describing various aspects of well-being, researchers have highlighted some common components: cognitive, emotional, social, and behavioural components (Ryff & Keyes, 1995; Van Horn et al., 2004). Studies on teacher occupational well-being should be viewed as a separate unit. Such studies have been carried out both in national settings (Aelterman et al., 2007; Webb et al., 2009) and in international large-scale settings (Schleicher, 2018; Spilt et al., 2011).

Teacher well-being is affected by a complex combination of internal — personal and professional — and external — school-related and organisational factors that are closely

related (Aelterman et al., 2007; Roeser et al., 2012; Van Horn et al., 2004). Personal factors include gender, professional experience and education; professional factors include attitudes and beliefs and professional development activities; and organisational factors include school climate, resources, management quality, workload, and staff relations. Some authors define teacher-student relationships as a significant factor affecting teacher well-being (Spilt et al., 2011).

Teacher well-being has become an issue of significant importance within the professional community, as it is linked to the quality of education, student well-being, and the possibility of reducing educational inequality and improving social mobility (Mourshed et al., 2011). Finally, teachers are important adults in children's scholastic lives, and there is some evidence that teacher well-being, at least indirectly, has significant effects on children's socioemotional adjustment and academic performance (Caprara et al., 2006; Hamre & Pianta, 2004; Malmberg & Hagger, 2009).

Professional burnout is also among the factors considered in studies on teacher well-being. Burnout can be defined as an extremely low state of occupational well-being. Bullough and Baughman (1996) showed that teachers at risk of burnout feel like failures, believe that they have made an incorrect career choice, and feel disappointed with their work being inconsistent with the ideals and goals they had set when they started their careers (Bullough & Baughman, 1996). LeCompte and Dworkin (1991) viewed burnout as an extreme type of role-specific alienation, with a focus on feelings of meaninglessness and an inability to successfully reach students (LeCompte & Dworkin, 1991). When analysing the causes of burnout, the key feature is stress (Day & Gu, 2013; LeCompte & Dworkin, 1991; Troman & Woods, 2001), which teachers are exposed to for a long period of time (Wood & McCarthy, 2002). Stress can be caused by organisational and social pressures such as administrative workload, classroom management issues, and lack of supervisor and team support (Burke & Greenglass, 1995; Greenglass et al., 1997).

Dworkin concluded that the factors contributing to teacher burnout arise due to the nature of teachers' professional activity (Dworkin et al., 2003), in particular, their relationship with school leaders: teachers who consider their principals non-authoritarian and supportive are less likely to experience burnout than are their colleagues, whose principals have the opposite leadership style (Dworkin, 2009). Dworkin's findings concerning burnout encouraged us to conduct this study, which, covers a wider range of possible factors associated with burnout.

Unlike most other researchers (Day & Gu, 2013; Ko et al., 2013), who link teachers' well-being primarily to their professional activities and show how school culture and intellectual and professional environments at school can be sources of stress resilience, Russian researchers have mostly studied the psychological factors involved in teacher emotional burnout and developed models of resilient behaviours (Boyko, 2000; Vodopyanova & Starchenkova, 2013). However, we are more interested in external factors, as the emphasis on accountability measures combined with the exclusion of teachers from policy-making procedures in Russia has recently increased, which could be a serious stress factor for them (Curry & O'Brien, 2012; White & McCallum, 2020). A

consequence of such a policy may be a deterioration in occupational well-being. Therefore, it has become relevant to investigate what and how this happens. We do not use any of the validated burnout scales (Lester & Bishop, 2000) for this study but rather adapt existing items (which, in fairness, are included in the MEMO for similar purposes) to make a new scale to take into account context specificity and research aims. Therefore, another objective of the study is to check the psychometric properties of the new scale used (and provide evidence for its legitimacy) and to evaluate how occupational well-being is reflected within the selected theoretical framework for each teacher on an interval scale (DeVellis, 2012).

Horn and Collie identified occupational well-being in a multicomponent model and described its characteristics. Our model is quite similar to the model by Van Horn, Collie and Day (2004), which distinguished interlinked multiple dimensions of teachers' occupational well-being. Collie described workload well-being, organisational well-being and student interaction well-being, and thus, we include these factors in our scale (Collie et al., 2015). Similar to Day's approach, we take into account three groups of factors shaping teachers' well-being: situational, professional and personal factors (Day et al., 2007). Finally, we use the OECD framework, where the main focus is on situational factors, while also addressing some professional factors (Viac & Fraser, 2020). These are the main areas where targeted policy intervention can act on and produce a change in the level of teachers' well-being. Personal factors, although relevant, are beyond the influence of educational policy.

Teachers in the Russian Federation

General information

The secondary education system in Russia employs more than 1 million teachers (with more than 16 million students). Of these, 60% teach in urban schools. The system is experiencing a personnel shortage. According to official data, vacancies make up no more than 3.7% of the total of all teacher positions in Russia (Surinov, 2018). The teaching profession is predominantly female (85%). According to the TALIS 2018, only in Latvia are there more female teachers than male teachers (OECD, 2020). In rural areas, the proportion of women is 9% higher than in urban areas (FSSES, 2019).

The average age of a Russian teacher is 45 years, and the average work experience is 21 years, which is five years more than the average in the TALIS (FSSES, 2019). The proportion of older teachers has increased in recent years, while the proportion of young teachers has declined, which is due both to the low level of popularity of the teaching profession and to the peculiarities of the pension system. If we consider the prestige of this profession, then according to the TALIS data, 43% of teachers are more likely to agree that the "teacher" profession is valued in society (only 6% agree completely), and 57% believe that the profession is more likely to not be appreciated, of which 13% are completely sure about this (FSSES, 2019). This indicator value is higher than the average value for participating countries but lower than that in the countries showing the best results in international studies on the quality of education (for example, Singapore;

OECD, 2020). Two-thirds of Russian teachers consider their profession to be under-appreciated by society but remain faithful to it and do not intend to change their occupation in the next 5 years. Nearly 15% of Russian teachers feel under-appreciated and plan to retire (OECD average 21%; FSSES, 2019).

In surveys, one-third of teachers note that attitudes towards teachers in society have deteriorated in recent years (Kosaretsky et al., 2019). Although the perception of the teaching profession as being desirable for children to pursue when they grow up has improved slightly in recent years, for the majority of the population, this profession remains "undesirable for children to pursue" (Kosaretsky et al., 2019).

Working conditions

In Russian schools, 90% of teachers work under open-ended contracts (OECD average 82%; FSSES, 2019). In accordance with the law, the paid working time of a teacher ("rate") must be 36 hours, including 18 hours of actual teaching. According to statistics, the number of rates employed by one teacher is on average 1.3 in urban areas and 1.2 in rural areas (Surinov, 2018). However, according to the survey, half of teachers work at 1.5 or more rates (Kosaretsky et al., 2019).

The duration of the working week of Russian teachers is 43 hours (almost 5 hours more than the average for countries participating in the TALIS). Moreover, teaching takes 24 hours (4 hours more than the research average) per week. Female teachers work almost 7 hours per week more than male teachers (FSSES, 2019).

The class size in Russian schools is 25 students in urban schools and 12 students in rural schools. The number of students per teacher is 14 (Surinov, 2018), but this figure has been increasing in recent years. For this figure in terms of primary school (20.6), Russia is ahead of all OECD countries, except Mexico (OECD, 2020). In terms of performance in basic school, this figure is close to the OECD average of 10.5 (13.7 and 7.9 for urban and rural areas, respectively; FSSES, 2019).

Salary

The salary system that has existed since the last century suggests the dependence of salaries on the level of education and work experience of teachers. In 2007, the so-called "new salary system" was introduced (Frumin & Kasprzhak, 2012), which involved the allocation of the basic part related to job responsibilities and workload, the level of education, the subject taught, and the stimulating part. Incentive payments were established for each teacher depending on the quality of his or her work (the results of the final attestations of students, participation and victory in subject Olympiads and competitions, etc.) and are distributed in accordance with the provisions on labour incentives adopted in schools (must be agreed upon by the governing board of the school). The new model has been criticised by a large number of teachers due to the instability (uncertainty) of salary size during the year, the opacity of the calculation mechanism, and the increase in reporting (Kosaretsky et al., 2019).

In 2012, the President of the Russian Federation issued a decree on bringing the salaries of teachers of general education to the average level for the region's economy. There was a noticeable increase in the salary of schoolteachers in nominal terms and from the standpoint of achieving the national average standard set in the presidential decree. The average salary of a schoolteacher was approximately $7,500 per year in 2018 (overall average salary in Russia $9,100) (Surinov, 2018) In OECD countries the average salary for a primary school teacher with 10 years of experience was $44,784 per year (OECD, 2020).

The salary increases that have taken place in the past few years have occurred due to the allocation of additional budgetary funds, and to an increase in the hourly workload and in the student-to-teacher ratio. The pay increase mechanism further stimulated an increase in bureaucratic burden. Thus, the effect of salary growth has been largely offset by these factors (Frumin et al., 2016). More than 60% of teachers in Russia are dissatisfied with their salaries (Klyachko, 2018). In recent years, teachers have noted a reduction in their material opportunities—for travel and recreation and to purchase necessary household items, clothing and food—decreasing the time that teachers can devote to their families (Kosaretsky et al., 2019).

Russians consider the low salaries of teachers to be the main reason for the reluctance of young professionals to want to become teachers. If additional funding were to become available, the most important considerations for Russian teachers are an increase in their own salaries (82% versus 69% on average in the TALIS), and reducing the paperwork and administrative burden by hiring support staff (66% versus 55% on average in the TALIS) (FSSES, 2019). Various polls in recent years have shown teachers' dissatisfaction with the increase in workload and accountability (Froumin et al., 2016; Kosaretsky et al., 2019).

Job satisfaction and stress

According to the TALIS, approximately 16% of Russian teachers noted that work, to one degree or another, negatively affects their psycho-emotional state; 53% do not feel a significant negative impact of work on their psycho-emotional health, and 31% of teachers do not notice such an effect at all. Fifteen percent of teachers reported a significant or strong negative effect of work on their physical condition. The remainder of teachers believe that work does not affect their physical health or does not significantly affect them. Approximately 18% of Russian teachers noted that they are exposed to stress at work: 13% of teachers largely agree that they experience stress at work, and more than 4% fully agree with this statement. This figure is two and a half times lower than the average for all countries participating in the TALIS 2018 (FSSES, 2019).

The majority of teachers in Russia (61%) say that they experience little stress; one out of every 5 Russian teachers (21%) does not experience any stress at all, which is almost twice the TALIS average (12%; FSSES, 2019). On average, for the OECD, the proportion of teachers reporting that they are not stressed at all at work is only 9% (OECD, 2020). There are three main sources of stress, correlated with those that are highlighted in the total TALIS sample:

- the need to comply with constantly changing requirements from authorities and the administration (46%);
- a sense of responsibility for the educational achievements of students (40%); and
- excess administrative work (39%; FSSES, 2019).

According to the TALIS data from the previous wave, which was conducted in 2013, young teachers, similar to teachers working with disadvantaged students, must solve the most difficult problems in terms of classroom management and the organisation of work in the classroom. A young teacher has 72.6% of their time left for teaching and learning, a teacher in a difficult class has 72.3%, and their older colleagues or those working in favourable classes have 88% (Pinskaya et al., 2016).

Young teachers and those who work in classes with the highest proportion of students from families with low SES and learning problems are least satisfied with their work and profession. One-third of teachers under the age of 39 years feel that it might be better to choose another profession. Among middle-aged teachers, 18% agree with this statement. Among the most critical group—teachers working with disadvantaged children—38% doubt their choice of profession, while among their colleagues working with the most prosperous students, only 18.5% doubt their choice (FSSES, 2019). Young teachers and teachers working in difficult classrooms generally rate the quality of the school environment lower. These teachers are less involved in professional communication and less likely to carry out joint educational or research activities with other teachers (FSSES, 2019; Kosaretsky et al., 2019).

In addition to salaries, the proliferation of reporting is a leading factor causing teachers' dissatisfaction with their working conditions. The preparation of reporting documentation is associated with external inquiries to the school and monitoring, with procedures for in-school quality control and, to a large extent, with procedures for assessing performance under the existing salary system (Kosaretsky et al., 2019). At the same time, according to the TALIS, in general, Russian teachers show a high level of satisfaction with their work and a low level of desire to change it (e.g., 12% in Russia, 21% on average in the TALIS, and 39% in Singapore; OECD, 2020). The longer teachers are in the profession, the more often they report job satisfaction (FSSES, 2019).

Our study is part of "Monitoring of Education Markets and Organisations" (MEMO), a broader project examining the specifics of educational life in Russia. Our work sheds light on the issues concerning the occupational well-being of teachers in the Russian Federation who were previously almost unrepresented on the international scientific agenda. At the same time, we investigate the factors related to the occupational well-being of teachers, which are of value not only for Russia but also for other countries around the world. The study emphasises professional activities when analysing the reasons for a lack of enthusiasm and signs of burnout. Our goal is to build a model that allows us to assess how occupational well-being is connected to the individual and professional characteristics of a teacher, given the school environment and working conditions, i.e., factors that can be considered and purposefully transformed through social management. We take into account the fact that school environments and working conditions, which

both are organisational factors, are determined by the country setting and its educational policy. This work also assesses the differences in teacher well-being levels among teachers working in areas of varying sizes.

Method

The data for this study are taken from a survey of teachers administered as part of the MEMO project, which presents information on recent trends in education in Russia: the choice of educational program, the funding of education, the strategies of educational institutions, overall management, the allocation of resources, hiring policies, etc. The information has been updated annually since 2002 based on a methodology that allows for the direct comparability of the data. The survey covered 8 federal districts (in addition to Moscow). We use secondary data from the last survey of teachers, which took place in 2015-2016.

Sample

A sample of 2,014 teachers was surveyed:

- 72% secondary and high school teachers; 28% primary school teachers;
- 8% males; 92% females;
- Mean age: 44 years (SD: 11, minimum age: 19, maximum age: 78); and
- Settlement type:
  - Moscow: 13.5%
  - Cities with over 1 million people:12.7%
  - Cities with 100,000 to 1 million people: 23.5%
  - Cities with less than 100,000 people: 16.7%
  - Villages: 33.6%.

A stratified two-stage sampling method was used. In the first stage, schools with different contextual characteristics (form of ownership, territory, features of ongoing educational programs, etc.) are selected from different districts. In the second stage, only teachers with a full teaching load at a single school are included in the sample. See the official project page for details on sampling in the MEMO study (Memo Project, n.d.).

Questionnaire

In the MEMO questionnaire for teachers, we examined the following data regarding their professional activities:

- Characteristics of the location, school environment and student body;
- Features of professional development;
- Satisfaction with the current working conditions;
- Subjective assessment of changes in teachers' professional activities and life in terms of their workload, financial resources, and leisure activities;
- Professional attitudes;
- Attitudes towards student achievement; and
- Wage level.

The MEMO questionnaire was supplemented with a target scale for detecting displays of occupational well-being or dysfunction, which contained 4 groups of statements, with three statements per group. For space reasons we omit details of the psychometric analysis, but are ready to provide further data. To summarise the results, we concluded that the tool we use has quite good psychometric properties and can be used in research. Despite some problems, the quality and characteristics of the tool are completely satisfactory. In the next stage of analysis, we used the level of occupational well-being on this scale in logits as a dependent variable in a multilevel regression model. The variable obtained in the Rasch model has a significant advantage over a similar variable that we could obtain through classical test theory, as it is completely interval, which is much more consistent with the regression analysis assumptions. As a result, we have a one-dimensional construct represented by one interval variable, collected from 12 statements.

Multilevel regression model construction and variable description

In our multilevel regression model, we examine the relationship between the level of occupational well-being and various contextual factors, attitudes, and working conditions. Therefore, we use the obtained individual measures of teacher well-being levels as a dependent variable to build a multilevel regression model (at the individual and school levels). We use various variables related to teacher attitudes, contextual characteristics and sociodemographic data as independent variables (predictors and covariates). As a grouping variable, we use teachers' affiliation with schools.

The selection of independent variables was based on various grounds. First, theoretical assumptions were made about which factors may be related to occupational well-being level. We relied on the data obtained during the literature analysis of different studies and developments aimed at identifying the relationships among socioeconomic factors, teachers' attitudes, the subjective dynamics of teacher-society relations, and occupational well-being levels (Caprara et al., 2006; Dworkin, 2009; Klassen & Tze, 2014; Konstantinovskiy et al., 2019). Second, we used a correlation matrix designed during preliminary data analysis. The exploratory form of the study allowed us to conduct an initial selection of some independent variables in this way. It is worth noting that not all independent variables were regarded as predictors, and some of them were covariates that should be controlled to achieve maximum clarity and quality of analysis, given the existing limitations. A complete list of variables with an exact description of the wording is presented in the Appendix.

Model

After building our regression model, the major assumptions of linear models (homoscedasticity, no multicollinearity, and a linear relationship) are verified. As a result, we can conclude that they are not violated. The model has a rather high explanatory power, but we naturally avoid causal interpretations (as it is only a correlational study). In Table 1, asterisks identify the variables that are significantly related to the level of occupational well-being while controlling for other variables. The remaining variables do

not demonstrate a significant statistical relationship with the level of well-being when controlling for other variables in the model.

Table 1: Multilevel regression model

Regression			
Dependent variable	Nonstandardised regression coefficient	P-value	
Well-being level			
Independent variables			
Teaching experience (interval)	0.01**	0.007	
Respondent finds his or her work important — benefit for society (dichotomous)	0.02	0.678	
Respondent likes everything about his or her work at school (dichotomous)	0.23***	0.000	
Respondent finds his or her work important — moral education of children and youth (dichotomous)	0.21***	0.000	
Proportion of children from families where both parents have a college degree (interval)	0.004**	0.002	
Attitudes: the reason for students' high academic achievements — natural abilities and talents (dichotomous)	-0.06	0.139	
Attitudes: the reason for students' high academic achievements — personal efforts (dichotomous)	0.02	0.553	
Attitudes: the reason for students' high academic achievements — high-quality teaching at school (dichotomous)	0.16***	0.000	
Overall time spent at work at his or her school (interval)	0.00	0.243	
Total monthly income (interval)	0.01**	0.002	
Participation in professional networking (dichotomous)	0.23***	0.000	
Having gained more respect from students at his or her school over the past two years (dichotomous)	0.14*	0.014	
Having gained more respect from parents at his or her school over the past two years (dichotomous)	0.18**	0.002	
Society's attitudes towards the teaching profession have improved over the past two years (dichotomous)	0.17**	0.002	
Gender (dichotomous)	0.02	0.818	
Age bracket of students whom he or she interacts with at school (dichotomous, primary/secondary school)	-0.04	0.376	
Marital status (dichotomous)	-0.04	0.364	
School type (dichotomous)	-0.03	0.696	
Multilevel R-square model			
Bryk/Raudenbush R-squared level 1	0.15	% of explained variance	
Bryk/Raudenbush R-squared level 2	0.40		
Percentage of variance explained by school grouping	Coef.	Std. err.	95% coef. interval
ICC. School level	0.18	0.03	0.13 - 0.25

*p < .05; **p < .01; ***p < .001

A comparison of different areas is performed as a separate analysis instead of using dummy variables due to the major practical significance of this issue in the Russian context — Moscow teachers traditionally receive much higher salaries than teachers in the regions, and also act as a "standard" against which everyone else is compared. One-way analysis of variance with covariates (ANCOVA) is used, the results of which are shown in Table 2.

Table 2: ANCOVA area comparison

Dependent variable: Occupational well-being on a logit scale					
Type of area		Mean	Std. error	95% confidence interval	
				Lower bound	Upper bound
Moscow		.513[a]	.082	.353	.674
City with > 1 million people		.813[a]	.054	.708	.919
City with 100,000 to 1 million people		.909[a]	.040	.831	.987
City with less than 100 thousand people		.835[a]	.047	.743	.928
Rural areas		.947	.035	.880	1.015
Controlled variables: School socioeconomic composition and teachers' income level					
Type of area		Mean difference (I-J)	Std. error	95% confidence interval for difference	
				Lower bound	Upper bound
Moscow	City with > 1 million people	-.300*	.098	-.575	-.025
	City 100,000 to 1 million	-.395***	.098	-.670	-.120
	City with less than 100,000	-.322**	.098	-.599	-.046
	Urban and rural settlements	-.434***	.097	-.707	-.161

P-value: * < .05; ** < .01; *** < .001

Findings and discussion

Personal characteristics of teachers

Demographics

A factor that is obviously and positively related to teacher well-being is teaching experience (which is naturally connected to age, and thus, we include it in the demographics). The more teaching experience a teacher has, the higher the level of his or her occupational well-being. These data confirm the results of the TALIS, which show that experienced teachers feel better at school compared to young teachers. Factors such as a low level of professionalism and adaptation to school situations, a lack of necessary connections within teaching staff and the presence of other factors that are not controlled by the researchers, as well as income level, may have a significant effect on occupational well-being. The average salary of young and less experienced teachers is much lower than that of their older colleagues. This difference was nearly 20% (OECD, 2014, 2020). There is no significant connection between gender and the level of occupational well-being. Marital status is also insignificant in terms of occupational well-being.

Work attitudes
Teachers' work attitudes have a significant effect on their occupational well-being. Teachers consider the moral education of children and young people an important aspect of their work. Experts and the teaching and parent communities in the Russian media have recently emphasised the importance of such educational work at school. Naturally, our respondents share this opinion.

It is also significant that our respondents believe that high-quality teaching at school is the reason for students' high academic achievements. Teachers who believe that students' successful academic performance is caused by high-quality teaching have a higher level of occupational well-being (and vice versa). The following attitudes are found to be nonsignificant: teachers seeing their work as beneficial for society, and believing that students' natural talent and individual efforts contribute to students' strong academic results.

Participation in professional associations and communities
We regard teachers' participation in professional organisations as a personal characteristic since *involvement in professional networking* is found to be significant. It is essential that this particular and most modern form of professional development is associated with occupational well-being. In the case of more traditional forms of professional development, like special workshops or seminars organised by teacher training colleges, there is no connection between them and occupational well-being (OECD, 2009).

Environment 1. Micro level: class, school

Student body
An important factor that connected to teacher well-being is (predictably) school socioeconomic composition, quantitatively expressed as the percentage of students from families where both parents have a higher education degree. This indicator is positively related to the level of occupational well-being. It is important to note that another indicator, the percentage of students from disadvantaged families, is negatively related to the level of well-being. Teachers with the most socially disadvantaged students exhibit the lowest levels of occupational well-being (Konstantinovskiy et al., 2019). Domestic studies have addressed the relationship between students' socioeconomic status and their academic achievements (Pinskaya et al., 2019; Pinskaya et al., 2018).

Work compensation
The factor that is definitely associated with occupational well-being is total income, and this association is positive and significant. Undoubtedly, it also reflects the above mentioned connection with the wage level, which depends on teaching experience.

Teachers' attitudes towards schools and students
Study data show that teachers who demonstrate a high level of occupational well-being are more likely to evaluate changes as being positive. In particular, they indicate that over the past two years, teachers have gained more respect from students at school, as well as from parents. Teachers with a high level of occupational well-being are more likely to say that

they like everything at their schools. However, this connection is obvious and it would be strange to assert the opposite.

The type of school[1], the classes that respondents teach and the total time spent on working activities is found to be insignificant for the level of occupational well-being. In addition, it is worth considering the significant value of the intraclass correlation coefficient, which shows that 18% of the variance in occupational well-being levels (taking into account the confidence interval) is explained by how teachers are grouped by school (Gelman & Hill, 2006). Similar conclusions can be found in previous studies (Wolf et al., 2015).

Environment 2. Meso level: school environment

An analysis of the research data shows that characteristics of the area where a school is located are important for teacher well-being. We have to take into account school socioeconomic composition and teacher income; then, the population (or, possibly, the level of urbanisation) of the area becomes nonsignificant. A higher salary and a more favourable student body contribute to higher levels of occupational well-being, and if we control for these variables in the analysis, we can see that all the area types are similar, except for Moscow. The occupational well-being of teachers living and working elsewhere is higher than that of those in Moscow. This finding prompted us to conduct additional data analysis on the sample of Moscow teachers to identify local factors related to their occupational well-being. When analysing their answers to various questions on the well-being scale, their answers in all topical units practically did not differ from the answers of teachers living and working in other areas. There is one significant exception, the relationship between Moscow teachers and school administrations. It is obvious that Moscow teachers evaluate their relationships with administrations more negatively than do their colleagues from other areas, for whom this side of school life is much more conflicting.

A possible explanation for this may be the reform of the Moscow system of general education conducted in 2012-2013. During this process, a school merger was undertaken, similar to that implemented in a number of other countries (Meyer et al., 1986; Strang, 1987) and that potentially had a number of negative effects. The former administration of the merged schools resigned, and teachers received a new leader appointed from above. We believe that long-term, often informal, relations between teaching staff and school administrations have been destroyed. The distance between principals and teachers has significantly increased. Communication has been hindered due to a massive increase in the number of teachers assembled under one principal, as well as due to the spatial remoteness of the central office from school buildings included in one school complex.

[1]At the time of the study, comprehensive schools in Russia could be defined as "ordinary" and "elite" (gymnasiums/lyceums).

Environment 3. Macro level: society's attitudes towards teachers

One of the current challenges and hot topics in Russian society is the prestige of the teaching profession. However, its status has changed significantly over the years. Naturally, societal attitudes towards them are crucial for teachers and their occupational well-being. This study has shown that the level of teachers' occupational well-being is positively correlated with the opinions of teachers and that over the past 2 years, society's attitudes towards the teaching profession have improved.

Conclusions

We can conclude that teachers with a high level of occupational well-being are usually women or men in their 30s or older (with five or more years of teaching experience). We can encounter them in a large city, in a small town or in a village. We assume that they are lucky to have this particular socioeconomic composition. Moreover, there are many students from families where both parents have a higher education degree, and the salaries of teachers who have these students are higher than those of their colleagues. Teachers are constantly engaged in professional development through participation in professional networking. They are inspired by the fact that over the past two years, society's attitudes towards the teaching profession have improved. Additionally, at their schools, teachers have gained more respect both from students and parents. As a result, they like everything at their schools. Moreover, they consider the moral education of children and youth an important aspect of their work and believe that high-quality teaching is the reason for students' high academic performance. However, the opposite is also true.

In this study, we have to rely on the information obtained during the survey of teachers corresponding closely to their true opinions and beliefs. We cannot exclude the possibility that their answers were shaped by social expectations. As the TALIS has shown, older teachers and those who teach the most socially successful students tend to give answers that are socially expected (OECD, 2020). The results obtained from the TALIS data analysis are quite consistent with the fact that teaching experience and a favourable student body are positively related to occupational well-being (OECD, 2014). However, researchers who have studied the shift in teacher responses that occurs during self-reporting methods have not been able to determine the quantitative indicators that enable us to evaluate the degree of such a shift. Therefore, we have to accept the survey results with certain limitations. However, we can use the distinction between low inference and high inference indicators, as was done in the last OECD framework on teachers' well-being (Viac & Fraser, 2020). Low inference indicators are defined as being mainly descriptive and non-judgemental, such as school type, demographics or participation in a given activity or number of years working at the same school. High inference indicators are defined as those based on the perception, assessment or opinion of the individual, such as work attitudes or a teacher's overall attitude towards his or her school.

Regardless of the risks determined by the accuracy of input data and assumptions during the development and application of the original research methodology, we are able to understand the relationship between teacher occupational well-being and a number of

factors related to the personal characteristics of teachers and the environment in which they work. Some of these factors are determined by the social context (for example, the socioeconomic composition of a school), and some can be affected by educational policy (Dworking, 2009); however, they cannot be independent of the social context (work compensation, society's attitudes towards the teaching profession, and respect for teachers at school). These data also correspond to the OECD framework on working conditions at a system level/school level concerning the factors related to occupational well-being, while others depend mainly on the teachers themselves, even though they are related to the first two categories (work attitudes and participation in professional associations and communities; Viac & Fraser, 2020). In that case, we have to say that teacher social capital is also a factor related to occupational well-being (in the OECD model, it is called the social dimension of teachers' occupational well-being).

These conclusions must be understood in the context of the essential limitations of the study, its quantitative nature. Based on the results, we can hardly speak in detail about the mechanisms of the relationships found. To eliminate this limitation in the future, one can resort to the use of a qualitative methodology, which was done in a number of the scientific papers we cited.

The discussion and designing of ways to change the situation involving stress and burnout among teachers should proceed from the noted complex nature of the factors leading to these disadvantages. We consider it a progressive trend of the education system to develop programs aimed at mastering the practices of self-regulation, mindfulness, stress resistance strengthening, and coaching and psychological support for teachers (Emerson et al., 2017; Flook et al., 2013; Matheny et al., 2000; Pyhältö et al., 2021). It should be borne in mind that these measures alone are not sufficient to obtain sustainable results, as all of them are still poorly represented in many developing countries (including Russia), though this process has begun and is moving along slowly. Developing new methods to improve teacher occupational well-being is especially important in the context of the pandemic and the related new factors causing teacher stress.

However, much more effort is needed to gain the capacity to cope with such stressors, or else they will be markedly less effective. We need to propose solutions for policy change at the state and school levels.

- At the state level, we need to think about the transformation of models for assessing the quality of the working conditions of teachers, accountability and bureaucratic burden (Dworkin, 2009; Howard & Johnson, 2004). Second, policy practices aimed at increasing general social inclusion—reducing segregation, regulating schools' socioeconomic composition, effective practices for the adaptation of migrants, reduction in the proportion of disadvantaged schools, etc.—are needed. All of this is necessary to simplify the lives of teachers and, as a result, reduce their stress.

- At the school level, the main focus should be on effective leadership, including caring principal leadership, cultivating trust, building a productive climate, increasing teacher autonomy, and delegating (Ford et al., 2019; Grissom et al., 2021), which will make it possible to better regulate local processes if federal policy does not reflect all the subtleties of real life.

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Appendix

Occupational well-being scale

Item	Strongly disagree (1)	Slightly disagree (2)	Difficult to choose / in between (3)	Slightly agree (4)	Strongly agree (5)
Var_A: I can do a lot to ensure that my students achieve academic success					
Var_B: The longer I work at this school, the more I am convinced that I have little influence over the decisions made by our administration					
Var_C: I try not to limit my activities at school to my direct duties					
Var_D: I believe that a teacher should not be responsible for the academic results of his or her students					
Var_E: Those who make decisions at school consider my ideas and suggestions					
Var_F: I choose to work as a teacher, and I enjoy working at this school					
Var_G: No matter how hard I try, my students are unlikely to show good results.					
Var_H: I fulfil my professional duties as a teacher, but I do not think that it is necessary for me to influence the decisions made by school administrations					
Var_I: I regret that I decided to become a teacher					

Var_J: I fulfil my duties and believe that this is enough
Var_K: Being a teacher is the same as any other job. Nowadays, you do not have a chance to choose
Var_L: The main responsibility of a teacher is to avoid criticism from school leadership

Attitudes towards students and academic expectations:
- **Var_A**[2]: I can do a lot to ensure that my students achieve academic success;
- **Var_D**: I believe that a teacher should not be responsible for the academic results of his or her students;
- **Var_G**: No matter how hard I try, my students are unlikely to show good results.

Opportunity and desire to contribute to decisions made by the school administration:
- **Var_B**: The longer I work at this school, the more I am convinced that I have little influence over the decisions made by our administration;
- **Var_E**: Those who make decisions at school consider my ideas and suggestions;
- **Var_H**: I fulfil my professional duties as a teacher, but I do not think that it is necessary for me to influence the decisions made by school administrations.

Attitudes towards professional duties:
- **Var_C**: I try not to limit my activities at school to my direct duties;
- **Var_J**: I fulfil my duties and believe that this is enough;
- **Var_L**: The main responsibility of a teacher is to avoid criticism from school leadership.

Professional identification and satisfaction with the teaching profession**:**
- **Var_F**: I choose to work as a teacher, and I enjoy working at this school;
- **Var_K**: Being a teacher is the same as any other job. Nowadays, you do not have a chance to choose;
- **Var_I**: I regret that I decided to become a teacher.

Psychometric analysis

Respondents were asked to rate their level of agreement with each statement. Answer categories were represented on a scale similar to a Likert scale (with scores ranging from 1 (strongly disagree) to 5 (strongly agree)). In its meaning and structure, the content of the target block corresponded to a psychological questionnaire intended to measure a particular construct. Statements A, C, E, and F used direct scaling, while all other statements used the reverse. The general scale characteristics are presented below.

In this section, we briefly describe the results of a psychometric analysis of the target block in our questionnaire. Due to word count limitations, the analysis covers only the most general and important aspects. The analysis was performed in the Winsteps program (https://www.winsteps.com/, version 3.73). The Rasch rating scale model (RSM) was used to examine the psychometric properties of the scale.

[2] The letter designations of statements correspond to their position in the questionnaire (in alphabetical order). The statements were presented to respondents in this sequence, so that the connection between statements belonging to one group did not seem obvious.

The RSM, which is an extension of the Rasch dichotomous model for polytomous items, is frequently used for noncognitive data (Wright & Masters, 1982). The Rasch model was chosen because it is useful for empirically determining the quality of test items and their response categories, constructing scales and carrying out different tests (Bond & Fox, 2003). The choice in favour of this model was made based on the theoretical framework of the instrument and the type of measured construct. Given the theoretical framework, one can assume that the questionnaire measures one construct—the level of occupational well-being.

Table A1 presents the results of the general psychometric analysis: reliability (the classic alpha and the Rasch alpha), measurement error, average fit indicators, and the maximum and minimum levels of respondents' measures on the scale. Our new scale is reliable enough (DeVellis, 2012), while the measurement error is low (one-third of a logit), and the average fit indicators are appropriate.

Table A1: Summary statistics

	TOTAL SCORE	MEASURE	MODEL ERROR	
MEAN	45.00	0.89	0.36	
S.D.	6.20	0.86	0.18	
MAX.	60.00	5.38	1.84	
MIN.	22.00	-1.35	0.29	
Personal reliability			0.74	
Cronbach's alpha			0.74	
	Infit		Outfit	
	MNSQ	ZSTD	MNSQ	ZSTD
MEAN	1.02	-0.1	1.03	-0.1
S.D.	0.64	1.5	0.67	1.4

Other questions/variables

Variable	Question in the questionnaire
Teaching experience (interval)	What is your overall teaching experience?
Respondent finds it important about his work — benefit for society (dichotomous)	Which one of the presented is important to you personally in your work? Possible answer: benefit for society
Respondent likes everything about his work at school (dichotomous)	What don't you like about this school? *Possible answer: I like everything*
Respondent finds it important about his work — moral education of children and youth (dichotomous)	Which one of the presented is important to you personally in your work? *Possible answer: moral education of children and youth*
Proportion of children from families where both parents have a college degree (interval)	What part of children you teach comes from families where both parents have a college degree? (write %, one number, at least approximately; if there are no such students, write "0")

Attitudes: the reason for student high academic achievements — natural abilities and talents (dichotomous)	From your point of view, what is the main reason for student high academic performance? *Possible answer: natural abilities*
Attitudes: the reason for student high academic achievements — personal efforts (dichotomous)	From your point of view, what is the main reason for student high academic performance? *Possible answer: personal efforts*
Attitudes: the reason for student high academic achievements — high-quality teaching at school (dichotomous)	From your point of view, what is the main reason for student high academic performance? *Possible answer: high-quality teaching at school*
Overall time spent at work at your school (interval)	Please indicate total time spent on all types of activities at this school on average during a week (specify your answer with one number)
Total monthly income (interval)	Please indicate how much you have received on average monthly from all types of activities (both your primary and secondary employment) during the current academic year (specify the amount in one number in roubles (and not thousand roubles)
Participation in professional networking (dichotomous)	Do you participate in professional associations, communities?
Over the past two years you have gained more respect from students at your school (dichotomous)	How did the position of teachers at your school change over the past two years? improved (increased) or deteriorated (decreased) ***Respect from students at your school*** *Possible answers: «Slightly improved», «Significantly improved» — 1, «Stayed the same», «Deteriorated» — 0.*
Over the past two years you have gained more respect from parents at your school (dichotomous)	How did the position of teachers at your school change over the past two years? improved (increased) or deteriorated (decreased) ***Respect from parents at your school*** *Possible answers: «Slightly improved», «Significantly improved» — 1, «Stayed the same», «Deteriorated» — 0.*
Over the past two years attitudes towards teaching profession in society have improved (dichotomous)	How did teacher position at your school change over the past two years? improved (increased) or deteriorated (decreased) ***Attitude towards teachers in society*** *Possible answer: «Slightly improved», «Significantly improved» — 1, «Stayed the same», «Deteriorated» — 0.*
Gender (dichotomous)	Your gender
Teacher's classes at school (dichotomous)	In which classes do you teach? Elementary school — 0, middle and high school — 1.
Marital status (dichotomous)	Your marital status Single — 0, married — 1.
School type (dichotomous)	Completed by respondent. Regular school — 0, gymnasium/lyceum — 1.

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